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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,071	07/14/2003	Derek Raybould	H0003569	1262

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EXAMINER
JOHNSON, JONATHAN J

ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 11/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

C

Office Action Summary	Application No.	Applicant(s)	
	10/621,071	RAYBOULD ET AL.	
	Examiner	Art Unit	
	Jonathan Johnson	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-20,22-37 and 45* is/are pending in the application.

4a) Of the above claim(s) *45* is/are withdrawn from consideration.

5)☒ Claim(s) *30-37* is/are allowed.

6)☒ Claim(s) *18-20 and 22-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *18-20,22-37 and 45* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claim 45 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

This application contains claims directed to the following patentably distinct species of the claimed invention:

I. Claims 19-20 and 22-37 are drawn to a first embodiment containing Zr.

II. Claim 45 is drawn to a second embodiment without Zr.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 18 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 45 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20 and 22-29 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,149,051 (Vollmer). Vollmer teaches coating a braze material onto a base material, said braze material being a mixture of Ti, Cu, Ni powders comprising 25-80% by weight Ti, 12-24% by weight Ni, and 12-22%Cu, wherein the Cu/Ni is between 0.5 and 1.0 (col. 5, ll. 28 to col. 6, l. 45); and wherein the amount of Zr present in said braze material is from 0 to 12% (col. 5, ll. 40-41, where Vollmer states that the amounts are "about . . . 15 -25 wt% Zr", which would encompass the claimed upper limit of 12 %), placing said base material with said braze material

in a vacuum furnace (see examples and col. 8, ll. 6-26); heating said braze material and said base material for a given braze time to achieve thermal stability between said braze material and said base material, said heating being up to a temperature that is not more than a braze temperature of said braze material (co. 6, l. 46 to col. 7, l. 23 and figure 1-3 and examples); and forming a braze joint between said braze material and said base material (figure 3, col. 7, ll. 24-53 and examples); wherein said braze material is further comprised of a precious metal (PM), the (Cu+PM)/Ni ratio is between 0.5 and 1.0, and there is 54-76% by weight Ti (col. 5, ll. 30-45); wherein said braze material is further comprised of M, wherein M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof (col. 5, ll. 30-40); wherein said braze material is comprised of 30-80 wt %Ti, 10-30 wt % Ni, 10-30% Cu, and 1-20 wt % M (col. 5, ll. 35-45); wherein said braze material is further comprised of a precious metal (PM) and Zr, said Ti being 42-76 wt %, said Ni being 12-24 wt %, said Cu+PM being 12-22 wt %, said Zr being 0.5-12 wt %, and the Cu/Ni ratio is between 0.75 and 1.0 (col. 5, ll. 35-45); wherein said braze material is further comprised of 0.5-12% by wt. Zr (col. 5, ll. 35-45); wherein said braze material is further comprised of (a) wt % Ti, (b) wt % Ni, (c) wt % Cu, (d) wt % Al, (d) wt % Si, (d) wt % Nb, (d) wt % Mo, (d) wt % Co and (d) wt % Fe, wherein (a):(b):(c) are in the ratio of 11:5:4 and (d) is between 0 to 10 (col. 5, ll. 30-40); wherein said braze material is further comprised of PM and M powders and said Ti being 25-80 wt %, said Ni being 10-30 wt %, said Cu+PM being 10-30 wt %, and 1-20 wt % M (col. 5, ll. 35-50); wherein said M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof (col. 5, ll. 30-50); wherein said braze material is further comprised of PM, Zr and M powders, said Ti being 25-70 wt %, said Ni being 10-30 wt %, said Cu+PM being 10-30 wt %,

said Zr being 0.5-12 wt %, said M being 1-20 wt %, and the (Cu+PM)/Ni ratio is between 0.8 and 1.0 (col. 5, ll. 30-50); wherein M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd and Ge or any combinations thereof (col. 5, ll. 30-50); wherein said braze material is further comprised of Ti, Ni, Cu, Al, Si, Nb, Mo, Co and Fe powders (col. 5, ll. 30-50).

IF IT IS FOUND THAT VOLLMER DOES NOT ANTICIPATE CLAIM 18, THEN THE 103 REJECTION APPLIES.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18-20 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over 6,149,051 (Vollmer). Vollmer teaches coating a braze material onto a base material, said braze material being a mixture of Ti, Cu, Ni powders comprising 25-80% by weight Ti, 12-24% by weight Ni, and 12-22%Cu, wherein the Cu/Ni is between 0.5 and 1.0 (col. 5, ll. 28 to col. 6, l. 45); and wherein the amount of Zr present in said braze material is from 0 to 12% (col. 5, ll. 40-41, where Vollmer states that the amounts are "about . . . 15 -25 wt% Zr"), placing said base material with said braze material in a vacuum furnace (see examples and col. 8, ll. 6-26); heating said braze material and said base material for a given braze time to achieve thermal stability

between said braze material and said base material, said heating being up to a temperature that is not more than a braze temperature of said braze material (co. 6, l. 46 to col. 7, l. 23 and figure 1-3 and examples); and forming a braze joint between said braze material and said base material (figure 3, col. 7, ll. 24-53 and examples); wherein said braze material is further comprised of a precious metal (PM), the (Cu+PM)/Ni ratio is between 0.5 and 1.0, and there is 54-76% by weight Ti (col. 5, ll. 30-45); wherein said braze material is further comprised of M, wherein M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof (col. 5, ll. 30-40); wherein said braze material is comprised of 30-80 wt %Ti, 10-30 wt % Ni, 10-30% Cu, and 1-20 wt % M (col. 5, ll. 35-45); wherein said braze material is further comprised of a precious metal (PM) and Zr, said Ti being 42-76 wt %, said Ni being 12-24 wt %, said Cu+PM being 12-22 wt %, said Zr being 0.5-12 wt %, and the Cu/Ni ratio is between 0.75 and 1.0 (col. 5, ll. 35-45); wherein said braze material is further comprised of 0.5-12% by wt. Zr (col. 5, ll. 35-45); wherein said braze material is further comprised of (a) wt % Ti, (b) wt % Ni, (c) wt % Cu, (d) wt % Al, (d) wt % Si, (d) wt % Nb, (d) wt % Mo, (d) wt % Co and (d) wt % Fe, wherein (a):(b):(c) are in the ratio of 11:5:4 and (d) is between 0 to 10 (col. 5, ll. 30-40); wherein said braze material is further comprised of PM and M powders and said Ti being 25-80 wt %, said Ni being 10-30 wt %, said Cu+PM being 10-30 wt %, and 1-20 wt % M (col. 5, ll. 35-50); wherein said M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof (col. 5, ll. 30-50); wherein said braze material is further comprised of PM, Zr and M powders, said Ti being 25-70 wt %, said Ni being 10-30 wt %, said Cu+PM being 10-30 wt %, said Zr being 0.5-12 wt %, said M being 1-20 wt %, and the (Cu+PM)/Ni ratio is between 0.8 and 1.0 (col. 5, ll. 30-50); wherein M is selected

from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd and Ge or any combinations thereof (col. 5, ll. 30-50); wherein said braze material is further comprised of Ti, Ni, Cu, Al, Si, Nb, Mo, Co and Fe powders (col. 5, ll. 30-50). With respect to the claimed amount of Zr, it is the examiner's position that the amounts in question are so close that it is prima facie obvious that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773.

Claim Allowance

Claims 30-37 are allowed.

Response to Arguments

With respect to the rejection made under 35 U.S.C. 102(b), applicant argues "Vollmer teaches away from the lower limit." The examiner disagrees. "Arguments that the alleged anticipatory prior art is nonanalogous art' or teaches away from the invention' or is not recognized as solving the problem solved by the claimed invention, [are] not germane' to a rejection under section 102." Twin Disc, Inc. v. United States, 231 USPQ 417, 424 (Cl. Ct. 1986). It is the examiner's position that Vollmer's teaching of about 15% necessarily encompasses the claimed upper limit of 12%.

With respect to the rejection made under 35 U.S.C. 103(a), applicant mades a similar argument that Vollmer teaches away from the lower limit. The examiner disagrees. "The use of patents as references is not limited to what the patentees describe as their own inventions or to

the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). In the instant case, it is the examiner's position that while Vollmer teaches (see Vollmer col. 7, l. 61) preferrred embodiments using 20% Zr, Vollmer explicitly states (see Vollmer col. 5, l. 42) that "about . . . 15% Zr" may be used. Merely because an embodiment teaches the use of 20% Zr does not negate Vollmer's broad teaching of "about . . . 15% Zr".

With respect to the examiner's position that since the amounts in question are so close that it is prima facie obvious that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773. Applicant has provided no evidence rebutting this position.

Additionally, the examiner would like to point out that applicant's statement that the "one of skill in the art would clearly understand that such a large variation in the braze composition would lead to significant differences in braze temperatures and poor brazes or ruined parts" is merely an assertion with no basis in fact. Applicant is reminded that the arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). Applicant is invited to submit an affidavit or declaration showing one of skill in the art would clearly understand that such a large variation in the braze composition would lead to significant differences in braze temperatures and poor brazes or ruined parts.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jonathan Johnson
Primary Examiner
Art Unit 1725

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